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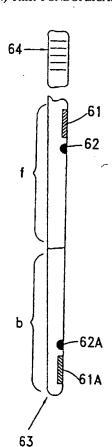
 141665
 26 February 2001 (26.02.2001)
 IL

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[Continued on next page]

(54) Title: FUNDOPLICATION APPARATUS AND METHOD



WO 01/67964 A3

(57) Abstract: An endoscopic device for the partial fundoplication for the treatment of GERD, comprises: a) a distal bending portion (b) and a flexible portion (f) suitable to be positioned in extended shape within the esophagus of a subject; b) a positioning assembly comprising two separate elements (62, 62A), one of which (62A) is located on said distal bending portion (b), and the other (62) on said flexible portion (f); c) a stapling assembly comprising a staple ejecting device (61A), wherein said staple ejecting device (61A) is located on either said bending portion (b) or on said flexible portion (f), said staple ejecting devices (61A) being in working positioned relationship when said two separate elements (62, 62A) of said positioning assembly are aligned; and d) circuitry for determining when said two separate elements (62, 62A) of said positioning assembly are aligned.



(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FJ, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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B. FIELDS	SEARCHED		
IPC 7	ocumentation searched (classification system followed by classification A61B		
	tion searched other than minimum documentation to the extent that s		
EPO-In	ata base consulted during the international search (name of data bas	se and, where practical, search terms used)	
	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the rela	evant passages	Relevant to claim No.
Α	US 5 395 030 A (KURAMOTO ET AL.) 7 March 1995 (1995-03-07) cited in the application abstract; figures		1
A	EP 0 630 612 A (ETHICON INC.) 28 December 1994 (1994-12-28) abstract; figures column 1, line 55 -column 2, line column 5, line 34 -column 6, line		1
A	US 5 897 562 A (BOLANOS ET AL.) 27 April 1999 (1999-04-27) cited in the application abstract; figures		1
		-/	
X Furth	her documents are listed in the continuation of box C.	Patent family members are listed in	n annex.
"A" docume consid	Itegories of cited documents : ent defining the general state of the art which is not lered to be of particular relevance	"T" later document published after the inter- or priority date and not in conflict with to cited to understand the principle or the invention	the application but
"L" document which may throw doubts on priority claim(s) or		 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. 	
later th	actual completion of the international search	"8" document member of the same patent f Date of mailing of the international sear	
	2 October 2001	ŋ 8, G2. Q2	
Name and n	mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nt, Fax: (+31-70) 340-3016	Authorized officer GIMENEZ BURGOS, R	

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International Application No PC , IL 01/00238

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Category *	Citation of document, with indication, where appropriate, or the relevant passages	helevani to daim 190.
Α .	US 5 403 326 A (HARRISON ET AL.) 4 April 1995 (1995-04-04) cited in the application abstract; figures	1
A	US 5 197 649 A (BESSLER ET AL.) 30 March 1993 (1993-03-30) cited in the application figures	1
A .	US 5 787 897 A (KIETURAKIS) 4 August 1998 (1998-08-04) cited in the application abstract; figures	1
P,A	WO 00 53102 A (GAZAYERLI) 14 September 2000 (2000-09-14) cited in the application the whole document	1,26-28, 30-44,47
A	US 5 772 099 A (GRAVENER) 30 June 1998 (1998-06-30) claim 1	1,26,27, 29-31
A	US 5 676 674 A (BOLANOS ET AL.) 14 October 1997 (1997-10-14) cited in the application column 6, paragraph 4	1,43
A	US 5 814 055 A (HUGHETT ET AL.) 29 September 1998 (1998-09-29) claim 1; figures 8,12-17	27,32
A	US 5 833 616 A (BELL ET AL.) 10 November 1998 (1998-11-10) figures 1,4,6	39
P,A	US 6 099 542 A (KIM ET AL.) 8 August 2000 (2000-08-08) claim 1	41
A	US 5 727 553 A (SAAD) 17 March 1998 (1998-03-17)	
A	WO 91 00049 A (KARL STORZ GMBH & CO.) 10 January 1991 (1991-01-10) page 17, line 6 -page 23, line 14; figures 1-6C	48,49, 51,52
A	DE 42 41 938 A (KARL STORZ GMBH & CO.) 16 June 1994 (1994-06-16) column 7, line 41 -column 9, line 33; figures	48
	-/	





International Application No

PL /IL 01/00238

Citation of document, with indication, where appropriate of the relevant passages Release	
17 June 1975 (1975-06-17) column 4, line 4-50 WO 89 11252 A (UNIV CONNECTICUT) 30 November 1989 (1989-11-30) page 19, line 3 -page 24, line 11; figures 1,2,4,5 US 5 776 049 A (TAKAHASHI SUSUMU) 7 July 1998 (1998-07-07) column 5, line 3 -column 7, line 16 column 9, line 19 -column 10, line 19;	evant to claim No.
30 November 1989 (1989-11-30) page 19, line 3 -page 24, line 11; figures 1,2,4,5 US 5 776 049 A (TAKAHASHI SUSUMU) 7 July 1998 (1998-07-07) column 5, line 3 -column 7, line 16 column 9, line 19 -column 10, line 19;	48,53
7 July 1998 (1998-07-07) column 5, line 3 -column 7, line 16 column 9, line 19 -column 10, line 19;	48-50
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INTERNATIONAL SEARCH REPORT

PCT/IL 01/00238

	L
Box I Observations w	there certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This International Search R	eport has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X Claims Nos.: because they relat	20-25, 56, 62 e to subject matter not required to be searched by this Authority, namely:
Rule 39.1(⁻ surgery	iv) PCT - Method for treatment of the human or animal body by
2. Claims Nos.: because they relat an extent that no n	e to parts of the international Application that do not comply with the prescribed requirements to such neaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are o	dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations w	here unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching	Authority found multiple inventions in this international application, as follows:
see additio	onal sheet
As all required add searchable claims.	itional search fees were timely paid by the applicant, this International Search Report covers all
2. As all searchable of any additional fe	claims could be searched without effort justifying an additional fee, this Authority did not invite payment e.
3. As only some of the covers only those	e required additional search fees were timely paid by the applicant, this International Search Report claims for which fees were paid, specifically claims Nos.:
No required addition restricted to the investment of the inve	onal search fees were timely paid by the applicant. Consequently, this International Search Report is rention first mentioned in the claims; it is covered by claims Nos.:
1-19, 26-53	3, 63, 64
Remark on Protest	The additional search fees were accompanied by the applicant's protest.
	No protest accompanied the payment of additional search fees.
1	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-19,26-53,63,64

Endoscopic device comprising a bending portion and a positioning assembly.

2. Claims: 54,55

Endoscope having an ilumination channel and at least one objetive lens.

3. Claims: 57-61

Endoscope comprising a system for measuring the distance between two objects.



INTERNATIONAL SEARCH REPORT

'ormation on patent family members

International Application No

PC 1L 01/00238

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5395030	Α	07-03-1995	JP	6047050 A	22-02-1994
EP 0630612	A	28-12-1994	AU AU CA EP JP US	669794 B2 6331894 A 2124109 A1 0630612 A1 7051273 A 5395033 A	20-06-1996 01-12-1994 25-11-1994 28-12-1994 28-02-1995 07-03-1995
US 5897562	A	27-04-1999	US US	5676674 A 5571116 A	14-10-1997 05-11-1996
US 5403326	Α	04-04-1995	NONE		
US 5197649	A	30-03-1993	AU AU AU CA EP JP US	661053 B2 2724592 A 3424995 A 2081239 A1 0540010 A2 5337122 A 5411508 A	13-07-1995 06-05-1993 01-02-1996 30-04-1993 05-05-1993 21-12-1993 02-05-1995
US 5787897	A	04-08-1998	US US WO	5558665 A 6067990 A 9600030 A1	24-09-1996 30-05-2000 04-01-1996
WO 0053102	Α	14-09-2000	US AU WO	6159146 A 3623300 A 0053102 A1	12-12-2000 28-09-2000 14-09-2000
US 5772099	Α .	30-06-1998	NONE		
US 5676674	Α	14-10-1997	US . US	5571116 A 5897562 A	05-11-1996 27-04-1999
US 5814055	Α .	29-09-1998	US AU CA EP JP AU CA EP JP	5662667 A 716012 B2 3680897 A 2215636 A1 0829235 A1 10113351 A 705597 B2 6565396 A 2185759 A1 0769273 A2 9182757 A	02-09-1997 17-02-2000 19-03-1998 12-03-1998 18-03-1998 06-05-1998 27-05-1999 27-03-1997 20-03-1997 23-04-1997 15-07-1997
US 5833616	A	10-11-1998	AU WO US	4159097 A 9808429 A1 6236876 B1	19-03-1998 05-03-1998 22-05-2001
US 6099542	A	08-08-2000	US AU CA EP JP WO	5830224 A 1969797 A 2249237 A1 0889705 A1 11512640 T 9733522 A1	03-11-1998 01-10-1997 18-09-1997 13-01-1999 02-11-1999 18-09-1997



INTERNATIONAL SEARCH REPORT

iformation on patent family members

International Application No

PC./IL 01/00238

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5727553 A	17-03-1998	NONE	· · · · · · · · · · · · · · · · · · ·
WO 9100049 A	10-01-1991	DE 3921233 A1 AT 120628 T WO 9100049 A1 DE 59008855 D1 EP 0434793 A1 JP 4500768 T US 5166787 A	14-02-1991 15-04-1995 10-01-1991 11-05-1995 03-07-1991 13-02-1992 24-11-1992
DE 4241938 A	16-06-1994	DE 4241938 A1 WO 9413190 A1 US 2002007110 A1	16-06-1994 23-06-1994 17-01-2002
US 3889662 A	17-06-1975	DE 2425827 A1	19-12-1974
WO 8911252 A	30-11-1989	US 4938205 A CA 1316252 A1 EP 0416025 A1 JP 4500321 T WO 8911252 A1 US 5109276 A US 5200838 A US 5172685 A US 5200819 A	03-07-1990 13-04-1993 13-03-1991 23-01-1992 30-11-1989 28-04-1992 06-04-1993 22-12-1992 06-04-1993
US 5776049 A	07-07-1998	JP 3220538 B2 JP 6194580 A US 5522789 A	22-10-2001 15-07-1994 04-06-1996